

ACYRTHOSIPHON PISUM (HOMOPTERA: APHIDIDAE), AN APHID SPECIES BITING MAN¹

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ABSTRACT: An account is given of bites received by the authors from the pea aphid, *Acyrtosiphon pisum*. The behavior, extremely rare in aphid species, is discussed in the context of the laboratory conditions under which it occurred.

Homoptera are characterized by a general lack of the predaceous habit (Cobben, 1978). Published accounts of species biting man are particularly rare. In an otherwise exhaustive review of the literature, Ryckman (1979) referred to records in four families of Auchenorrhyncha only. No sternorrhynchous species were listed. However, a few cases of aphids biting man have been documented (Docters Van Leeuwen-Reijnvaan and Docters Van Leeuwen, 1926: 452; Takahashi, 1931: 86, 1934; Aoki *et al.*, 1977). These have involved oriental gall-making species (Pemphigidae, Eriosomatidae of authors; referred recently to Aphididae [Hormaphidinae] by Blackman and Eastop, 1984), and the behavior may be restricted to a particular defensive morph (Aoki, 1979). In this paper, we report bites received from the pea aphid, *Acyrtosiphon pisum* (Harris), a first record for this unusual behavior in a species of Aphidinae. Banks *et al.* (1968) previously reported cannibalism or predation in *A. pisum* and in other aphidines.

The attacks, by both nymphal and adult apterae, occurred a number of times in 1985 and early 1986 during inspections of a laboratory colony reared on broad bean, *Vicia faba*, in a controlled environment chamber. Conditions were maintained at ca. 22° C, 50-80% R.H., and a 16L: 8D hour photoperiod, with fluorescent tubes providing a light intensity of 60 $\mu\text{E s}^{-1} \text{m}^{-2}$ at plant level. On these occasions, our hands and forearms routinely accumulated numerous aphids dislodged from the plants. Bites were received only on the hairless underside of the wrists and, in some cases, produced small reddish areas and welts. Although aphids parasitic on herbaceous plants are capable only of relatively shallow stylet penetration, and do little tissue damage (Pollard, 1973), the watery saliva they inject may contain a number of toxic compounds (Miles, 1972), including hemolytic substances (Dewitz, 1915). We often experienced a mild irritation at the site for as long a two to three hours after receiving bites. This

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contrasts with the severe reaction that may result from bites from phytophagous Hemiptera (Culliney *et al.*, 1986). A voucher specimen of one of the offending individuals has been deposited in the Cornell University Insect Collection under lot #1147.

Many attacks by phytophagous Hemiptera on humans have been attributed to behavior influenced by unnatural visual, thermal, tactile and/or chemical stimuli (Myers, 1929; Usinger, 1934). In the present case, conditions under which the incidents occurred were unquestionably artificial. Also, during examinations of the aphid colony, our hands and forearms often became stained with sap and other exudates from damaged bean plants. Bites were always of brief duration and may have represented exploratory probes into the skin in response to the overlying plant chemicals.

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